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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/913,893	09/21/2001	Jarmo Makinen	879A.0077.U1(US)	6005
29683 7590 07/30/2007 HARRINGTON & SMITH, PC 4 RESEARCH DRIVE SHELTON, CT 06484-6212			EXAMINER HAN, CLEMENCE S	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 07/30/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

09/913,893

**Applicant(s)**

MAKINEN, JARMO

**Examiner**

Clemence Han

**Art Unit**

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claim 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenzo et al. (US 6,587,444) in view of Papadopoulos et al. (US 5,594,720) and further in view of Magana (US 6,134,227).

Regarding to claim 1, Lenzo teaches a data transmission method of a radio link system between a central station and at least one substation comprising the steps of: transmitting a time division multiplex signal (upper frame in Figure 4B) during a first plurality of time slots at a first frequency ( $f_d$ ) from the central station B40; and receiving at the central station B40 signals from said at least one substation M40 during a second plurality of time slots at a second frequency ( $f_u$ ), said second frequency ( $f_u$ ) being a different frequency than said first frequency ( $f_d$ ) (Column 5 Line 55-56) and said signals of said at least one substation at said second frequency forming a time division multiple access signal (bottom frame in Figure 4B). Lenzo, however, does not teach reserving at least one time slot from said first plurality of time slots or said second plurality of time slots for said at least one substation needing more traffic capacity than at least one second substation, said first plurality of time slots being different than said second plurality of time slots and substantially all time slots being used. Papadopoulos teaches reserving at least one time slot from said first plurality of time slots or said second plurality of time

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slots for said at least one substation needing more traffic capacity than at least one second substation (Column 8 Line 3-5, Column 7 Line 11-14), said first plurality of time slots being different than said second plurality of time slots and substantially all time slots being used (Column 2 Line 43, Figure 8B). It would have been obvious to one skilled in the art to modify Lenzo to reserve timeslots according to traffic need as taught by Papadopoulos in order to be used in mixed traffic condition (Column 7 Line 9-10). Lenzo in view of Papadopoulos, however, does not teach transmitting and receiving simultaneously. Magana teaches transmitting and receiving simultaneously (Column 7 Line 13-24). It would have been obvious to one skilled in the art to modify Lenzo in view of Papadopoulos to transmit and receive simultaneously as taught by Magana in order to allow greater amounts of information to be communicated (Column 7 Line 9-11).

Regarding to claim 2, Lenzo teaches the central station controls the time slots used for transmission and reception by the substations (Column 7 Line 45-55).

Regarding to claim 3, Lenzo teaches a radio link system, comprising: a central station B40 comprising means for discriminating reception signals from transmission signals on basis of frequency (Column 5 Line 55-56, Figure 4A); and at least one substation M40; wherein the central station B40 is configured so as to transmit a time division multiplex signal (upper frame in Figure 4B) during a first plurality of time slots at a first frequency ( $f_d$ ) and receive a time division multiplex access signals (bottom frame in Figure 4B) during a second plurality of time slots at a second frequency ( $f_u$ ); wherein the at least one substation is configured so as to receive signals at said first

frequency ( $f_d$ ) during the first plurality of time slots and said at least one substation is arranged to transmit signals at said second frequency ( $f_u$ ) during the second plurality of time slots, said second frequency being a different frequency than said first frequency and said signals transmitted by said at least one substation at said second frequency being arranged to form said time division multiple access signal (Column 6 Line 8-12, also see Column 5 Line 67 - Column 6 Line 3). Lenzo, however, does not teach the central station is configured to reserve at least one time slot from said first plurality of time slots or said second plurality of time slots for said at least one substation needing more traffic capacity than at least one second substation, said first plurality of time slots being different than said second plurality of time slots and substantially all time slots being used. Papadopoulos teaches the central station is configured to reserve at least one time slot from said first plurality of time slots or said second plurality of time slots for said at least one substation needing more traffic capacity than at least one second substation (Column 8 Line 3-5, Column 7 Line 11-14), said first plurality of time slots being different than said second plurality of time slots and substantially all time slots being used (Column 2 Line 43, Figure 8B). It would have been obvious to one skilled in the art to modify Lenzo to reserve timeslots according to traffic need as taught by Papadopoulos in order to be used in mixed traffic condition (Column 7 Line 9-10). Lenzo in view of Papadopoulos, however, does not teach transmitting and receiving simultaneously. Magana teaches transmitting and receiving simultaneously (Column 7 Line 13-24). It would have been obvious to one skilled in the art to modify Lenzo in view of

Papadopoulos to transmit and receive simultaneously as taught by Magana in order to allow greater amounts of information to be communicated (Column 7 Line 9-11).

Regarding to claim 4, Lenzo teaches the central station is configured to select said first and second plurality of time slots ( Column 7 Line 45-55).

Regarding to claim 5-9, Lenzo teaches a wireless communication system 100 (Figure 1). Lenzo, however, does not explicitly teach a specific system. A GSM mobile communication system, a UMTS mobile communication system, a broadband data transmission system, a LMDS system and a HiperAccess system are all well known in the art wireless communication system. It would have been obvious to one skilled in the art to modify Lenzo to be used in a specific system as a design choice.

Regarding to claim 10, Papadopoulos teaches uplink and downlink time slots allocated according to traffic needs (Column 8 Line 3-5, Column 7 Line 11-14).

Regarding to claim 11, Papadopoulos teaches uplink and downlink time slots allocated according to traffic needs (Column 8 Line 3-5, Column 7 Line 11-14).

Regarding to claim 12, Lenzo teaches an apparatus for data transmission, comprising: a transmitter unit arranged to transmit a time division multiplex signal (upper frame in Figure 4B) during a first plurality of time slots at a first frequency ( $f_d$ ); and a receiver unit arranged to receive signals from at one substation M40 during a second plurality of time slots at a second frequency ( $f_u$ ), said second frequency ( $f_u$ ) being a different frequency than said first frequency ( $f_d$ ) (Column 5 Line 55-56) and said signals of said at least one substation at said second frequency forming a time division multiple

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access signal (bottom frame in Figure 4B). Lenzo, however, does not teach a processing unit arranged to reserve at least one time slot from said first plurality of time slots or said second plurality of time slots for said at least one substation needing more traffic capacity than at least one second substation, said first plurality of time slots being different than said second plurality of time slots and substantially all time slots being used.

Papadopoulos teaches a processing unit arranged to reserve at least one time slot from said first plurality of time slots or said second plurality of time slots for said at least one substation needing more traffic capacity than at least one second substation (Column 8 Line 3-5, Column 7 Line 11-14), said first plurality of time slots being different than said second plurality of time slots and substantially all time slots being used (Column 2 Line 43, Figure 8B). It would have been obvious to one skilled in the art to modify Lenzo to reserve timeslots according to traffic need as taught by Papadopoulos in order to be used in mixed traffic condition (Column 7 Line 9-10). Lenzo in view of Papadopoulos, however, does not teach transmitting and receiving simultaneously. Magana teaches transmitting and receiving simultaneously (Column 7 Line 13-24). It would have been obvious to one skilled in the art to modify Lenzo in view of Papadopoulos to transmit and receive simultaneously as taught by Magana in order to allow greater amounts of information to be communicated (Column 7 Line 9-11).

3. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lenzo et al. in view of Magana.

Regarding to claim 13, Lenzo teaches a data transmission method of a radio link system between a central station and at least one substation comprising the steps of: transmitting a time division multiplex signal (upper frame in Figure 4B) during a first plurality of time slots at a first frequency ( $f_d$ ) from the central station B40; and receiving at the central station B40 signals from said at least one substation M40 during a second plurality of time slots at a second frequency ( $f_u$ ), said second frequency ( $f_u$ ) being a different frequency than said first frequency ( $f_d$ ) (Column 5 Line 55-56) and said signals of said at least one substation at said second frequency forming a time division multiple access signal (bottom frame in Figure 4B). Lenzo, however, does not teach transmitting and receiving simultaneously. Magana teaches transmitting and receiving simultaneously (Column 7 Line 13-24). It would have been obvious to one skilled in the art to modify Lenzo to transmit and receive simultaneously as taught by Magana in order to allow greater amounts of information to be communicated (Column 7 Line 9-11).

#### ***Response to Arguments***

4. Applicant's arguments filed May 07, 2007 have been fully considered but they are not persuasive. In page 2-6, the applicant argues that the combination of Lenzo and Magana is not proper because the disclosure in Magana is in clear contradiction to Lenzo (page 4 second paragraph starting with "Thus"). Lenzo teaches UL and DL communications separated both in time and frequency to reduce cost (Column 5 Line 26-30). However, Lenzo's method reduces the system capacity also. Magana teaches transmitting and receiving simultaneously (Column 7 Line 13-24). Lenzo in view of



Magana would increase the cost while increasing the system capacity. Therefore, it would be a design choice between a system with higher cost and higher capacity and another system with lower cost and lower capacity. A person skilled in the art might modify Lenzo in view of Magana in order to achieve higher system capacity in spite of resulting higher cost. In page 5, the applicant further argues that Magana teaches reception and transmission between terminals but not between BS and the terminal. Magana teaches reception and transmission between BS and the terminal (Figure 6). In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clemence Han whose telephone number is (571) 272-3158. The examiner can normally be reached on Monday-Friday 9 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Clemence Han  
Examiner

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A handwritten signature in black ink, appearing to read 'Huy D. Vu', with a long horizontal flourish extending to the right.

HUY D. VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600